Introduction
TRAINING AND DEVELOPMENT

INTRODUCTION

1.1 Introduction to Training

Training is an important function of the Human Resource Development Department in any Organization. Training starts right the time the Human Resource Development inducts personnel into an organization. We call that induction training. Further on, there are any number of training going on in an organization depending on the needs. Such training may be on the technical side, to upgrade the skills of the trainees/employees, or to change their attitudes to fine tune it with the requirements of the times, or to help them cope with the stress, to stem attrition, to keep motivation high, to build team spirit and so on.

There are some important factors that make training a hot subject in the modern world of business:

1. The changes taking place in businesses is so fast that a stable set of Human Resource Practices, including, training, is no more possible. There is a lot of innovation needed, all the time, failing which businesses are threatened with failure. For instance, Acquisitions and Mergers across continents demand quick changes in the culture-mindset of employees of the organizations.

2. The changes taking place in the technology of training itself demand new methods to reach to people: Examples such as long distance training online that could be done one on one or one to many are possible today.

3. The topics for training are so hot and changing so very quick that a standardized training may not work for too long. For instance, when an IT company inducted those who did well in their C language may soon be inducting people with C++ or C# or Visual C… And, HR Department will be faced with ‘experienced’ employees who are ‘outdated’ and needing ‘updating’ which has to be done by training on the job.

In these contexts, the role of Human Resource Department is not something of an add-on to the top management but becomes core to the top management team itself. Thus, the core task of Training handled by the Human Resource Department is, today, pushing the HR Department to assume a core role in the management of any modern day company. Hence the
need to closely study the role of training, particularly in industries that are modern and spread across the globe: typically, the Information Technology Industry.

Training needs to be understood as something different from teaching, particularly the teaching done in the context of formal education. Training is concerned mainly with enhancement of cognition, increasing of knowledge, changing attitudes and building competencies. But, teaching in the educational contexts aims to pass on knowledge and skills related to a predefined and predesigned course of study which is highly uniformly delivered to reach a large segment of students, usually of the same educational level; whereas, training differ from one employee to another, one group to another, even the group in the same category.

The difference arises because Training aims often at changing or transforming a person, at much deeper levels than capabilities; deeper levels such as attitudes, beliefs or even identities. In one sense, unlike teaching that addresses similar groups of students, Training brings together divergent groups of individuals to work as team, to jell together and to share in a common vision and mission and to produce goods and services as one Corporate Body. The situation is that, after good training, all different types of skilled group of employees can get into similar capacity, similar skilled group. This is the advantage of the breeding’s.

To that extent, Training done by Human Resources Management Departments try to change the individual towards a common good it is said to be ‘manipulative’; and to the extent Training of HRD aims to make a person produce more for the Company, Training is also dubbed as an ‘Exploitative’ exercise by the HRD Department! But, essentially Training offered by HRD must develop employees’ capacities through learning and doing, so as to help the Organization achieve its goals. And Organization will measure the success or failure of a Training by its ability to help achieve its set goals or targets.

Training and Development is the framework for helping employees to get their personal and organizational accomplishments, cognition, and powers. The focal point on all facets of Human Resource Development is in producing a superior workforce that constitutes individual employees accomplishing their employment goals in service to clients.

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When we look at Training from the perspective of the employees, it could become a fine tool for them to hone their skills. For, skills are what makes an Employer to hire them for employment. And, upgrading one’s skills becomes the core focus for attending training. Employees want to be and need to be valuable and remain competitive in the labor market that has an excess of supply over demand. By getting trained constantly or continuously employees ensure they are in touch with current technology, skills, that is, attitudes and aptitudes, they ensure both employment and also their promotion. Particularly in times of recession when a Company is likely to cut down on its employee strength, it is the better trained that are likely to survive a downsizing of staff. Well trained staff negotiate easily for higher salary than the less trained. And, surely, in modern contexts of fast changing business, Employees will always require to develop career-enhancing skills, to get employed, to retain one’s job during a crisis, to get promotions, and to be a most sought after person for potential poachers who will invite him to join with higher pay.

There is no question that a well-trained and developed staff will be a valuable asset to any Organization as such a person will be capable of carrying out his or her responsibilities to the great satisfaction of the employer. Thus, training and development of personnel contributes significantly to organizational growth.

Trainings in an organization may be divided into two main types; **Internal and External training**.

**Internal training** refers to training organized in-house by the Human Resource Department or its Training Department; and usually is staffed by some senior or talented staff as a resource person/s. Internal training also includes on-the-job training that is done within the environment they'll be working; such training may be done by one’s seniors or supervisors of the same Company.

**External Training** refers to training programs not designed or carried out within the organization. Such training are what we may call ‘out-sourced’ training. Outsourced external training is less difficult to organize, and it helps tide over the difficulty faced by Organizations that do not have the required resources to train in-house.

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2 *Robbins Training in Interpersonal Skills: TIPS for Managing People at Work* Stephen P. Robbins,

3 Training for Smart Workforce Rod Gerber; Colin Lankshear. Routledge, 2000
1.2 Training Methods

1.2.1 Training Methods – on the Job Training and Off the Job Training

Trainings in an organization can be of two broad types. They are on-the-job trainings and off-the-job trainings\(^2\). The on-the-job trainings are given to the employees while they are carrying on their regular works in the same positions. In such training, they do not lose time while they are training. Since such training is done in the familiar space where one works and given by people the trainees are familiar with, it is important to properly design such training ahead of the training; or else, the seriousness of the training could get diluted due to familiarity between the trainees and trainers.

After a training design is prepared\(^3\) on what should be taught, employees should be informed about the details. A timetable should be set up with periodic evaluations to inform employees about way forward. “On-the-job” training techniques include orientations, job instruction, apprenticeships, internships, assistantships, job rotation and coaching.

On the other hand, off-the-job techniques include lectures, extra study, audio visual conferences or discussions, character studies, role play, simulation, programmed instructions, and laboratory preparations. Most of these techniques are also pricey.

Either way, whether done on-the-job or off-the-job, a good training is expected to improve the performance of the trained persons, and to boost their morale. But, the problem, most of the time, is due to inadequate training, though there might be other factors that are not related to training at all. Some employees on being sent for a variety of training interventions fail to implement what they learnt when they are back at work. This raises a question as to whether training does bring any change in the altering of the behaviour of employees in organizations.

1.2.2 Methods of trainings can be essentially split up into four types, namely:
   a. Story telling method
   b. Illustration method
   c. Role play method
   d. Discussion method

   Story telling is one of the ancient method followed by many teachers who wanted to transform their listeners. Story has a way of taking people into the realm of their unconscious
minds, and reprogramming them from deep within. In modern Corporations, the stories of the founder members of the Company is used to inspire people to align themselves to the vision, mission and goals of the organization. For instance the stories of Steve Jobs visiting the first Apple Store on the night before it was inaugurated, and examining the finishing of the flooring inspires managers in Apple to pay attention to details… Or, when the story of Jobs is told about how he dumped the old version of printers when new ones were introduced, refusing to sell old versions though there was still a demand, upholds the value of giving only the best to consumers – even if it will mean financial loss to company. Such deep values that sets one company apart from the other are embedded in stories better than anything else. Hence good Trainers do well to collect stories that contain the values he or she wants to impart to his or her trainees.

Illustration method is again another way of telling stories, in visual formats! Seeing is believing, so goes the saying. Hence, making people see encourages them to believe in possibilities. Thus for instance, to motivate less educated people to become entrepreneurs, a trainer will do well to illustrate how 65 per cent of top 100 companies in the world were established by people with less than a college degree education; and illustrate the case of Bill Gates, Steve Jobs, and others… This illustration ‘proves’ to the audience under training a point that they will otherwise easily reject.

Role Play is another powerful way you get people ‘realize’ complex or unpalatable truths. Also, it helps people to see from ‘different perspectives’ of the different roles played by different people. “The Beer Distribution Game” popularized by the Management Guru Dr. Peter Senge of MIT is a good example of how a game played by executives teaches the ‘dynamics’ of a distribution system – where even when each player has played well – there is disaster in the market.

Discussion Method:

Debating and Discussing are also very ancient in their origin as a powerful and popular method of learning or training. Typically, in a debate a problem statement is proposed and people take sides to defend and to attack the statement. In Tamil Nadu, we have the tradition continued in the form of Patti Mandram even today.
This surely is a popular way to educate or train people to see things from different perspectives. Socrates used this powerful method to train people to see things better, going beyond assumptions or hypotheses, by challenging them. Hence this method is also known as Socratic Debate.

There are more methods than the four mentioned above. But, it generally possible to bring divergent training under any of these four methods mentioned above. For instance the e-learning that is happening. Even the training done through the Internet could be in the form of stories, interactive discussions, or the trainer and students playing different roles, or the trainer illustrating his or her message through attractive videos or animated pictures.

Corporate sponsored learning represents an investment that companies make to enhance their human capital to ensure their future. Naturally, companies expect their investment in training to yield dividends in terms of improved productivity, enhanced customer satisfaction, better commitment of employees, and higher retention. Hence, whatever the method of learning, it needs to serve the ultimate business function: increase productivity, increase profits and show positive return on investments in training.

1.3 Need of the Study

Today, the Human Resource (HR) function currently finds itself in an unprecedented situation. HR has already experienced numerous changes over the past few decades or even centuries. All along, it has been adapting to the changes occurring in its environment; and in the environment where changes were slow and, to a great extent, foreseeable. However, the opposite is happening now. Changes are occurring at an increasingly faster speed, and the business world is changing course in more and more unforeseeable ways. Hence, HR Managers will need to go beyond making adjustments and adaptations, and face challenges confronting them at a fast pace. To enable the managerial and lower cadres to cope with fast and constant changes in the business environment, the most important tool that a HR Manager has is Training.

In this context, survival of companies will only be possible for those that understand the crucial role HR managers and the Training they organize need to play in today’s business. They cannot be left to play a secondary role in strategic decision making process. They need to be given an active voice and role, and a sensible budget allocation as a matter of the firm’s business policy, and be allowed to make managerial-type decisions. That is, the role of HR
and Training are not one appended to the operations or other departments, but one run on a
firm footing of their own.

Post Globalization, as organizations have to compete in the worldwide economic
system, they need to differentiate themselves through constant innovation and upgrading of
quality of products and services. And that is possible only through constant upgrading of
knowledge, skills and motivation of their workforce. A recent industry report by the
American Society for Training and Development (ASTD) states that the U S Organizations
alone spends more than $126 billion per year on employee training and development
(Paradise) “Training” refers to a systematic approach to learning to improve individual,
group, and organizational effectiveness (Goldstein & Ford). “Development” refers to results
flowing from learning new knowledge, skills, attitudes etc.

1.4 Information Technology and Training

The study of Information Technology involve various factors such as hardware,
software, package systems, communication systems, storage, transmission, analysis and
utilization of data. Successful execution of information technology (IT) is dependent upon
being able to cope with the overall architecture of systems, their interfaces with humans and
organizations, and their relationships with external environments. It is also critically
dependent on the ability to successfully convert information into knowledge.

Data technology is concerned with improvements in a variety of human and
organisational problem-solving endeavors through the conception, evolution, and utilization
of technology based systems and procedures that enhance the efficiency and effectiveness of
information in a variety of strategic, tactical, and functional offices. Ideally, this is achieved
through critical attention to the data demands of humans in trouble-solving tasks and in the
supply of technological aids, including electronic communication and computer-based
systems of hardware and software and associated procedures. Information technology
complements and enhances traditional technologies through emphasis on the information
basis for applied science. The cognition and skills required in information technology come
from the applied engineering sciences, especially data, computer, and systems engineering
sciences, and from professional pattern. Professional activities in information technology and
in the acquisition of data technology systems range from requirements definition or
specification, to conceptual and functional design and growth of communication and
computer-based organizations for information support. They are touched with such topics as
architectural definition and valuation. These activities include integration of new systems into functionally operational existing systems and maintenance of the result as user demands change over time. This human interaction with systems and processes, and the associated data, processing activities, may take several diverse classes. The hardware and software of computing and communications from the basic tools for information technology. These are implemented as information technology systems through the role of systems engineering procedures. While information technology and data systems engineering does indeed enable better designs of arrangements and existing organizations, it also enables the design of fundamentally new organizations and arrangements such as virtual corporations.

An extensible set of knowledge’s, skills, and abilities (KSAs) structure the Training Requirements and are associated to the document through generic IT Security Body of Knowledge. We use the term information technology or IT to refer to an entire industry. In actuality, information technology is the use of data processors and software to handle information. In some societies, this is referred to as Management Information Services (or MIS) or simply as Information Services (or IS). The information technology section of a large company would be responsible for storing info, protecting data, processing the information, beaming the information as necessary, and later retrieving information as necessary.

1.4.1 Information Technology - Trends: Information Technology Departments will be increasingly concerned with data storage and management, and will find that information security will continue to be top priority. Cloud computing remains a fast evolving area to keep track of. The job outlook for those within Information Technology is strong, with data security and server Gurus being amongst the highest paid techies, as can be seen from the numerous Information Security Certifications.

4A Rorissa journal of Library & Information Science, 13(2012) ... wrote a very eloquent editorial piece about the role information Technology plays in the dynamic

5The International Journal of Database Management Systems (IJDMS) is a bi monthly open access peer-reviewed journal that publishes articles which contribute.
1.4.2 Information Technology Training

*High-tech Skills Needed for Workplace Success*

Training provides education to a miscellany of information technology and advanced applied manufacturing subjects. Information Technology skills are determined according to the type and scope of the job. Some of the training elements offered through the high tech skills needed for workplace success are:

**Advanced Applied Manufacturing Technology**

- Computer Programming
- Data Base Development
- E-Business/Commerce

**Data Security**

- Management Information Systems
- Web Administration
- Package Engineering
- Systems Analysis
- Technology Support
- Web Site Design and Development

1.4.3 What exactly does Information Technology Entail

Essentially information technology is all about using information as a commodity or resource unlike other businesses. The data that is being interpreted, distributed, stored, transported, etc. are usually in the forms of audio, video, textual and numerical information and is processed through the use of microelectronics and data processors. The arena of Information Technology is usually utilized to depict a whole series of jobs and there are lots of tasks that are called Information Technology jobs like Management Information Services and Information Services.

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6Elsevier Store: Microelectronics Journal. ISSN-00262692, Journal

1.4.4 TOP IT TRAINING COMPANIES AT A GLANCE

Figure 1  Brand Name of Leading Training companies
1.4.5 IT Training Industry

Training in IT Industry, like in any other industry, may be said to start with the induction training of neophytes. During this training the candidates are given intensive training to master the specific software language they will using in the project they are hired to work in. Often, such training are held outside the Company premises. Large companies like Infosys has hundreds of acres wide training centres to handle their training needs. Induction training also aims to give the recruits an introduction into the Company culture, team work etc.

The next level of training in IT may be said to be Managerial or Supervisory level of training. This training, though it resembles the leadership training in other industries, differs much from them: For instance, the IT manager needs to know how to chunk the jobs and entrust the pieces to smaller teams, and also ensure they don’t clash with each other; so too, with assigning of names for variables, rights etc.
Chapter 1 – Introduction & Research Background

The task of training managers becomes more complex with the use of pieces of software already developed by the previous teams for different projects. And, each project work completed needs to be tested for any bugs. And, each is a highly specialized area. Perhaps the most modern challenges come to Training in IT industry in the field of networks, cloud computing, securities. In the area of securities, those young people who take personal interest in developing ‘ethical’ hacking skills, either by study or by self-interest stand to get good chance to get employed! This is one area where ‘self-training’ has a lot of value.

For proprietary packages, languages or operating systems the proprietor of the Software, often, offer highly standardized training and certifications. Examples: Microsoft Certified Engineer, Oracle, Professional Certifications, CISCO Certification, etc. Besides, there are also Training Institutes such as NIIT, APTECH etc. that provide quality training and certifications for professionals. They have training module to suit anyone interested in any part of software training and certification. They offer accelerated learning delivered online by industry’s known professionals. Such training have become much sought after for those seeking success in IT field, as it saves time, and money.

IBM is building skills for a smarter planet through a comprehensive portfolio of learning services and expert training that applies informal, social collaboration and formal courses to empower learners to make their skills and capacities. IBM\textsuperscript{9} created content is delivered by IBM's Global Training Providers supporting millions of learners across 170 nations and in multiple languages and modes of learning. Defending in the Top 20 list from 2008 to till date

\footnote{A student-friendly, self-directed guide to service-learning \textsuperscript{8} Develops the skills needed to succeed \textsuperscript{8} Clearly \ldots ISBN-13: 978-1579221195 ISBN-10: 157922119X.}
As an education leader, HP brings unmatched content expertise in HP products, associated processes and topics, and industry-standard technologies. The width and profundity of HP training offerings include not only products and services, but also vital business processes and customized learning solutions. All courses draw from more than 30 years of meeting complex technology training requirements worldwide. In-person courses are extended in 93 learning centers worldwide, plus numerous partner facilities or at your own location, and many of the classes are presented live online or self-paced.

Skillsoft is a trailblazer in the sphere of learning with a long story of invention. Skillsoft provides cloud based learning solutions for its customers worldwide, setting out from global enterprises, political science, and education to mid-sized and modest commercial enterprises. Skillsoft's customer support teams take out on a wealth of in-house experience and a comprehensive learning e-library to develop off-the-shelf and custom learning plans tailored to cost-effectively satisfy client demands. Skillsoft's courses, scripts and televisions have been sprung up by industry leading learning experts to insure that they maximize business skills, performance, and talent development.

Today’s human resources and training professionals are challenged with increased expectations from employers. And, many opportunities exist to get trained through any number of training service providers. One could take exams from the comfort of a center close to one’s home, and instantly get certifications and also, often, the certifying companies put up the list of candidates who passed their examinations on their websites, thus providing instant opportunities for landing jobs.
Enterprising Learners leverage these learning opportunities as a means to fulfill their dreams for getting high paying job. Whether your aim is to increase your income, skills, get a high-end job that can’t be achieved by your standard education, knowing that quality training services are available, often online, and such training are handled by experts is vital for one’s success. In fact, even for one’s formal education, the trend is to get the best lectures online for free as can be seen in the Massachusetts Institute of Technology’s Open Course Ware website where they offer more than 2000 courses online for free of cost for anyone who cares to learn any subject from astronomy, biology, engineering, physics, media studies etc.

1.4.6 Nature of work in the Information Technology Sector

Information Technology sector

The employees of this sector are grouped into Eight selected occupations commonly identified for their computer related focus of work\textsuperscript{14}

(i) **Computer and information research scientists** explore new ideas in information technology. They produce and refine the theories that are the starting item for many computer products and organizations.
(ii) **Computer information system managers** are in charge of the data processor system in an organization. They decide which IT products the organization needs such as calculator, network, and software and supervise the workers who operate these products.

(iii) **Computer Hardware Engineering** Peripheral device controllers look after input devices, like keyboards and mice, output devices, like printers and graphics displays, and storage devices like disks. The CPU and peripheral controllers work together to transmit data between the calculator and its users. Such as computer Chips, circuits, and driveways. These engines are in personal computer, cellular, Tablets, iPod.

(iv) **Embedded Chip level designing**

Efficient utilization of on-chip memory space is extremely important in modern embedded system applications based on processor cores. In addition to a data cache that interfaces with lower off-chip memory, a fast on-chip SRAM, called Scratch-Pad memory, is often used in several applications, so that vital data can be stored there with a guaranteed fast access time. We introduce a technique for efficiently exploiting on-chip Scratch-Pad memory by partitioning the application’s scalar and arrayed variables into off-chip DRAM and on-chip Scratch-Pad SRAM, with the goal of minimizing the entire implementation time of embedded applications. We also present extensions of our proposed memory assignment strategy to handle context switching between multiple platforms, as considerably as a generalized memory hierarchy. Our experiments on code kernels from typical applications show that our technique results in substantial performance advances.

(v) **Computer software Engineering** design/write computer software. They examine the demands of computer software users and then design, train and test software to fulfill those demands.

11 Learning Management System Technologies and Software Solutions for Online Teaching: Tools and Applications (Premier Reference Source) [Hardcover] Yefim Kats (Author, Editor) Be the first to review this item
(vi) **Computer programmers** translate the intent of software engineers into computer code – a linguistic process that the computer reads. This code tells the computer what to perform, such as to navigate to a web page when the user clicks on a link to that page.

(vii) **The database administrator** determines the best room to organize and stock information. They deploy and maintain database software systems and take steps to assure that the data remain secure.

(viii) **Network system and Data Communication analysts** plan and test computer systems. They also design new ways for computer systems to share data.

1.4.7 **Training refers to a planned attempt by a company to facilitate employees’ learning of job related competencies.** These competencies include knowledge, sciences, or behaviors that are vital for successful business execution. The end of training is for employees to master the knowledge, skill, and behaviors much needed in preparation, plans, and team work. For a society to gain a competitive advantage, its training has to involve more than the basic knowledge and skills. Competitive advantage is gained only by creativity and innovation. Thus, intellectual capital includes basic skills (skills needed to do one’s job), advance skills (such as to apply skills to complex situations) and further, the skills needed to bring in innovative products that customers will love to use! For instance, Apple Computers were able to bring out cellphones with touch screen, just one button (when other rivals had a whole keyboard); or phone that also worked as music player, camera and an internet access point – a product that Apple invented to please customer though a great sense of creativity.
1.4.8 Training Knowledge Management Decision\textsuperscript{15}

![Knowledge Management Decision Diagram]

Figure 4 Knowledge Management Decision

1.4.9 E – learning

E-learning happens, often, with stored set of training material which a member of an organization can access at his or her convenience and learn. Such learning is also accompanied by online tests to assess the quality of learning of the learner. Training material may vary very widely in its contents. It could be on matters related to their day to day operations, about upgrading of skills, or training related to behavior, or other skills such as communication skills, email etiquette, reduction of stress etc. We can find, for instance, universities in the West offering such training to its students on areas such as how to cope with stress or loneliness in the university etc., and to whom to contact for further assistance, if needed!
The advantage of offering training online is that it is accessible at any time and any place. The training can be addressed to all levels of employees – from the shop-floor to the CEO and directors – as well as to those related to the company but are outside of the company such as marketers, customers, and guests.

Training can be given up to geographically distributed employees. Training can be delivered faster and to more employees. Updating or revising information is easy. Some companies tailor make training material from internationally reputed trainers and place them online, exclusively for their staff. Given the high quality of such training, employees find it very useful, and such training become very popular, too. Some Companies have a way of tracking the employee’s usage of training material, and link their promotions to the quantum of time spent on their internet, learning. For instance, ICICI bank offers high quality training material to its staff, and they report benefiting from such material.

Practice, feedback, objectives, appraisal, and other positive characteristics of a learning environment can be built into the plan. E-Learning is enhanced through the utilization of multiple media (audio, text, picture, graphics) and trainee interaction. Paperwork related to training management (registration, assessment, etc.) can be ruled out. It can connect learners to other content, experts, and equals.

Figure 5  E-learning
E-learning is fast becoming a favored learning for ages of people. Top universities like Harvard, Massachusetts, University of Texas, Berkeley of the world have gathered to educate people on line under the banner “edX” offering hundreds of courses to tens of thousands of people the world. e-Learning is a key means of delivering lifelong learning, cultivating a culture of innovation and expanding productivity. e-Learning environments allow learners to move at their own pace and can be more effective for learners who are shy, reflective, or require more time to absorb information.

(www.edx.org)

- **Synchronicity** -- live e-learning classes where participants and teachers can interact online in real time.
- **Asynchronous** -- self-paced e-learning with access to online resources, simulations, video, etc.
- **Instructor-led** -- face-to-face formal workshops that also involve coaching and mentoring.

Through a flexible and robust system in organization’s, no matter the size, can implement effective plans that are easily manageable and deployable.

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1.4.10 Training and Development in India

Indian companies are beginning to understand the importance of corporate training, particularly as they are coming in touch with foreign companies that compete with them in India, or those they compete with in foreign countries. The evolution of multinational corporations necessitate training to ensure the service is rendered appropriate to the standards and culture in which the Company expands its operations; and such adaptation of standards and culture can be achieved only through training.

An awareness that training increases productivity, and also helps the business cope with competition prompts Indian companies to invest more and more in training. Instead of looking at training as pure costs, a trend is emerging to look at it as investment. And, training has now become significant in every area of business operation such as Sales, Marketing, Human Resource, Logistics, Engineering, Production and Service, Inventory Management, etc.

Indian companies train their skilled workforce by on-the-job and off-the-job trainings. According to NASSCOM there is a tremendous advance in the IT corporate training market, which is anticipated to touch Rs. 600 crore from Rs. 210 crore (Training Scenario in Indian Industry).

According to the research done by the Kauffman Foundation in the Kansas City (Wadhwa, 2010), training is undertaken to tackle deficiencies in the education system, which many companies believe is still lagging in the areas of technology, research and development. In a study co-written by Harvard and Duke researchers (“How the Disciple Became the Guru: Is it time for the U.S. to learn workforce development former disciple, India?”), they studied 24 Indian companies in emerging sectors, including IT,
Business process outsourcing, software, pharmaceutical, retail, financial, hospital, and teaching. Their survey found that all sectors have risen rapidly in spite of major barriers which are termed as “skills shortfalls and talent shortages” (Riley, 2008).

India is a late comer into the area of training their workforce, and don’t have much advanced training methods. On the contrary, in the USA and Europe, companies have been training their employees for decades. The arrival of IT companies in India may be said to have boosted the idea of training the staff and management in Indian Companies. India’s top five IT companies—TCS, Infosys, Wipro, Satyam, and HCL had recruited about 120,000 new employees, most of them coming straight from Indian universities, almost all of them go through “Freshers’ Training” right at the time of joining. And India-specific cause for Freshers’ Training may be due to the lack of quality education provided by the institutions of higher learning, which NASSCOM accuses of producing unemployable graduates.

Foreign Governments define precisely the different levels of any specific skills one might learn. Such standardized definition of skills become useful for any training institution to focus on the specifics of the skills, to test and certify them. We have for instance training standards such National Council for Vocational Qualification (NCVQ). Also, some Universities, too, standardize the levels of skills expected by one who is trained to specific levels in that skill. Cambridge International Examinations (CIE) is one such level that helps the employer be sure of the skills in the one whom he/she is employing. As we don’t have such well-defined parameters to train for, test and certify, our (educational) systems don’t deliver results expected by employers. In this situation of less than optimally trained students
coming out of colleges, there is need to upgrade the youth through appropriate training so the employers and the youth are served well. For the political and economic stability of a nation, it’s significant to engage youth in technical evolution. (Riley, 2008)

1.4.11 Assessing Training Effectiveness

Training is not a onetime event that could be expected to produce instant results. One goes through training throughout one’s live. Constant learning is very crucial for the survival of any company. In fact, the modern management guru Peter Senge talks of the Organization itself as “Learning Organization”.

Learning Organizations are made of people who learn; and people who learn keep getting trained constantly. The following figure illustrates this very well:

The Training and Education Lifecycle. For Effectiveness

1998-2005 Scott W. Ambler

Typically, the training that starts with the initiation or induction training is followed by ‘hands-on’ mentoring of seniors in the place of work. And, eventually, the mentoring itself won’t be sufficient; and one will need further advanced training or even further education.

The bases “Support the Learning Experience” is what the Companies need to do through their department of Human Resource Training and Development.
1.4.12 How Mentoring is an integral part of Training

There is always a gap between what a person learns from books and what one finds in the field. One can’t become a cook by reading books alone. An experienced cook could help a person, however much he or she has learned about cooking from books. Thus, even an employee who comes in with a lot of ‘qualifications’ will need to learn how to apply the bookish learning to live situations. That is possible by an expert in the field or shop-floor. The expertise of these practical experts needs to be made available for further honing of the skills of newly recruited employees. And the time tested method to make this non-formal training to happen is called ‘mentoring’.

Obviously, mentoring system calls for experts who are willing to ‘freely’ share their experience with younger people who might become greater experts than the mentors themselves, over time! This risk involved in imparting knowledge to one who is closely working with inhibits the experienced hands from sharing their expertise with the younger generation. But we do need sufficient number of mentors to make this system of training by mentoring a success.

For a mentor to be very productive the ratio required is one mentor for every two or three novices. More novices than two or there for a mentor will result in the novices not getting enough attention and sufficient inputs from the mentor. Project teams consisting of one expert and a great number of novices are likely to go wrong.

Mentoring is in addition to training and education, not a replacement for it. A crucial function of a mentor is to help the novices understand the big picture and to focus on the team. Also, the mentor will explain new ways to utilize the knowledge that novices bring with them, and also to help resolve conflicts and problems related to adjustments with the workplace.

The mentoring process typically requires between six and twelve months – the time period needed for fresh employees to adapt their technology, relationship or life related challenges in the new place of work.
Good mentors make the mentees independent of them, bad mentors do not. That is because, good mentors don’t mind making themselves redundant. Bad mentors fear losing their prominence and are incapable of sharing.

1.5 Training Evaluation Tools

Return on Investment (ROI)

Return on investment in training and development (T&D) is done by measuring all the economic returns generated from an investment in a T&D program. The benefits that are measured are compared with the cost of the training to ascertain the benefit of training over costs. All capital assets need to earn a rate of return in any for-profit commercial enterprise, just to stay in business. ROI is about evaluating the return on investment in T&D using similar criteria used for other investments.

Some benefits can be easily quantified, such as an increment in sales after a sales training, but others, such as customer/employee satisfaction, quality of teamwork, personal motivation etc., can’t be easily quantified and measured in money terms. Costs can generally be well quantified, such as the hire of training rooms, however, the cost of removing the trainee from his/her routine job may not be easily measured in monetary terms.

The intense focus on execution in public companies has made ROI increasingly important. To ensure that projects and programs receive funding, it becomes very important to justify the funds spent produce adequate returns. Hence, an ROI evaluation fulfills senior management’s requirement to justify Training budgets and investments. It is to be noted that the evaluation of ROI itself takes time and resources. Hence, it is easily done by larger industrial houses than by small ones. It is not, however, impossible for smaller firms to undertake an ROI study. Over a period of time, they, too will become adept at doing ROI on Training, through practice.

Course of studies to be evaluated to should be chosen carefully. Using standard size, scope, a baseline for study, and the accessibility and authenticity of information available play significant role in calculating ROI accurately.

Inadequate Training Needs Assessment prior to delivery of a training program militates against an efficient evaluation process. Knowing where the trainees stood before training helps evaluate the effect of the training. TNA can help with this comparative
Chapter 1 – Introduction & Research Background

assessment before and after training. There must be strong support from senior management in the organization for execution of the examples.

The Human Resource Department needs cooperation of all other departments in this ROI study; departments such as the Operations, MIS and others will play a vital role. Hence a study of ROI itself will depend on the level of cooperation existing between different departments. In particular, the participation of trade union representatives has been found to be useful. It is important to have training objectives and outcomes focused on business targets. For, away from meeting business targets, a great ROI won’t make much sense.

1.6 Research Background

In this background of Corporate Training gaining importance due mainly to the rise of Software Industries in India, and the impact of Globalization that pushed Indian companies to serve clients across the globe, and to compete with international players at home, this research wants to focus on Training in IT industries. It’s not easy to ‘visualize’ the effectiveness of a training; and much less easy to measure it in terms of money value. This makes management of Training a very tricky issue. One is reminded of Peter Drucker’s “Managing the Non-Profits” a classic work on management, by an unparalleled management guru. Peter Drucker argues that managing a Non-Profit is more difficult than a for-Profit Corporation precisely because there is no bottom-line called ‘profits’ against which we can measure the effectiveness of activities done by a not-for-profit. Something similar is true for the investments made by a company in Training. As we saw, the benefits accruing from the investments in training can’t be measured in monetary terms. The returns such as a team spirit, motivation, higher capability of the trained person to write codes can’t be measured in terms of money. In one sense, however much the usefulness of a training intervention is, it is difficult to say this much of money invested in training has given us this much of money in return! A dilemma similar to managing the not-for-profits.

It will be a great service a researcher can do to the Industry to be able to show them the benefit or otherwise of their Training investments by studying their impact on these very significant parameters: motivation, job performance, leadership capabilities, on gender challenges, management skills and job rotation.
Such a study can help the Industry evaluate their Training even when they are not able to get an accurate ROI. Also, it will help them fine tune their training to get better results in areas where the training prove less effective and to build on their strengths.

In the area of competitive economic pressure, the general tendency is to cut costs, and often, Research and Training Dare the great sufferers as these department have inherent difficulty to prove their usefulness in terms of precise ROI calculations. But, being stingy with making investments in the Training and Research wing will prove costly for a company’s own survival. We do see companies that rose to great heights disappearing in no time, being swept away by competition who proved more efficient and innovative: Today, for instance, the once famous ‘blackberry’ phone has disappeared, giving way to touch screen phones produced by competition.

By taking those parameters for our study, it will be possible to find if and where training prove effective and where specifically Training need to be designed and organized better.

1.7 Research Gap

Studying the effectiveness of a Training, doing its impact assessment is not a well develop science yet; nor is it taught as a discipline or part of a discipline in any curriculum in the university. Most of the impact assessment stops with getting feedback from trainees on how they ‘felt’ about the training, usually immediately after the training, which does not reflect on the effectiveness of the training in the field. Hence we can say that there definitely is a serious research gap in the area of training effectiveness assessment.

We are slowly emerging out of this gap with efforts made by a few pioneers in formulating tools to assess the effectiveness of training. The most significant among them are Kirkpartrick, Jack Philips, Daniel Stuffle, Robert Stake, Kaufman and Michael Scriven. Of course, it will be impossible to evaluate all of the proposed models of evaluation of Training by these many and more
One among them is Kirkpartrick who has given a model to assess training effectiveness. And, this research is an attempt to test his four stages model in Indian IT Industry Contexts. We also go one step further by studying Model proposed by Jack Philip’s and compare the two models. Hope this study of Kirkpatrick and Jack Philip’s and a comparison between the two will go a long way to help the IT Industry to review their Training involvements.

1.8 Research Objectives

The above research gap gave rise to development of research objectives and which gives direction for the research. The following is the list of objectives

I. To know the Profile of the impact of online Training in IT
II. To Study the impact of Learner’s Reaction
III. To study the impact of women Training & Leadership
IV. To assess the value of Training and learning behavior.
V. To study the impact of Training & improvement of managerial Skills
VI. To study the impact of Job rotation

1.9 Research Proposition

H1 : There is a significant and positive impact on Motivation and Learning outcome
H2 : There is a significant and positive impact on Education and Learner Reaction
H3: There is a significant and positive impact on Experience and Job Performance
H4: There is a significant and positive impact on Methods of Training and Job Rotation
H5: There is a significant and positive impact on Designation and Result oriented
H6: There is a significant and positive impact on Age and Learner Reaction
H7: There is a significant and positive impact on Martial Status and Women Training
H8: There is a significant and positive impact on Educational Qualification and behavioral Training
H9: There is a significant and positive impact on Monthly income and Result oriented
H10: There is a significant and positive impact on Monthly income and Job Performance
1.10 Research Methods

The Methodology followed is briefly explained here. The same will be discussed in detail in a separate chapter.

1.10.1 Research Design

This research study belongs to the nature of descriptive research. The research problem is clearly defined as to identify what is to be measured. This explains the selection of descriptive research design.

1.10.2 Source of Data

In order to perform comprehensive analysis of the Impact of Training in IT industry and its influence among the reaction, Learning, Behaviour, Result IT Employees in Madurai, Chennai, Bangalore with the help of questionnaires and the secondary data were taken from journals, published sources available with the company website and books.

1.10.3 Sample size

The principal data was collected from the 400 respondents; the researcher used 30 questionnaires for pilot study, to check the reliability, and validity of the instrument by applying Cronbach’s alpha and F test.

1.10.4 Sampling technique

Quota sampling is applied in this study. Researcher decided to collect data from the selected IT offices located in Chennai, Madurai and Bangalore. Researcher decided to allot sample size from each IT offices based on the level of accessibility. Hence, researcher decided that quota sampling is appropriate to get the response from the respondents.

1.10.5 Tools used for analysis

To arrive at the result of the study, the data are analyzed using SPSS. The Tools used for the analysis include Levene’s statistics, Anova Test, and Structural Equation model is applied to study the Impact of Training in IT Industry.
1.11 Organisation of the Dissertation

The researcher has arranged the chapters in the following manner,

The **First Chapter** consists of introduction to the study on Training & Development and is explained in detail. This chapter also details the background of IT industry and the relevance of Training & Development to this industry. In this chapter Kirkpatricks 4 levels of training is detailed along with various other Training & Development studies.

The **Second Chapter** details the study of literature. The Literature Review forms the main pedestal of the dissertation as consequent analysis and future result based on it. This chapter aim at providing an overview of the body of research performed on the study - **Impact of Training in (information Technology) IT industry**. This chapter discusses different empirical research on Training and development in IT industry. Finally the research gap is identified. The review is the documentation of evidences from empirical studies conducted on the occurrence of Training among the Information Technology employees. Through this researcher analyses the conceptual frame work of Kirkpatrick

The **Third Chapter** of the study explains the theoretical & conceptual framework of Training and Development in particular to the IT industry.

![Diagram](image)

**Figure 8**

Training is believed as an important concept of motivation in Human resource that employees tend to grow with an employer bonding, that have similar impact in information Technology traits with their own and thus, there should be congruence between Employee and Employer only through the impact of Training. Visual recognition has proven to be a challenging task for computer vision based training. This difficulty stems from the large pattern variations under which an automatic recognition system must operate. Surprisingly, this task is extremely easy for humans, which leads to Robotics Training Research in near

The **Fourth Chapter** of this study details about the Research Methodology. Methodology is the science of understanding the methods or principles of procedure to be adopted. It is the science of proper modes and orders of procedures. IT Companies of the description of the methods or techniques to be adopted and the tools and techniques the researcher has used for collecting, organizing and analysing the data. To find out a solution for any problem, the researcher should adopt suitable method in connection with the objectives of the study. It mainly depends upon the nature of the problem and the type of data required giving appropriate solution. The selected method should always be appropriate for the problem under investigation, feasible, pre-planned, well understood and clearly defined. The present study had been structured to document the prevalence of Impact of Training of Informational Technology Professional with special reference to Chennai, Bangalore and Madurai cities. Specifically, this chapter of the study discusses the overall research methodology consists of Variable/factors, Research Objectives, construction of questionnaire and its validation process, sample methods and size, Sources of data, pilot study etc.,

This research is Descriptive in Nature. The descriptive research attempts to describe, explain and interpret conditions of the present i.e. “what is’. The purpose of a descriptive research is to examine a phenomenon that is occurring at a specific place(s) and time. A descriptive research is concerned with conditions, practices, structures, differences or relationships that exist, opinions held, processes that are going on or trends that are evident

The **Fifth Chapter** of this study is about the data analyses & interpretation, Primary data was collected from 400 respondents working in 5 IT Majors. The tools used to study the respondents questionnaire are Levene’s Test, Anova Test, Post Hoc Test and Structural Equation model is applied to study the Impact of Training in IT Industry, constructed based on the existing theory. Questionnaire was used to collect the data from the respondents. Based on the research, model questionnaire was prepared and trial survey was used to
evaluate the reliability and validity of the instrument. After the trail survey few questions were removed from the questionnaire to attain good statistical reliability. Questionnaire was issued separately to each set of Training processes.

The **Sixth Chapter** details the testing of hypothesis or research proposition, SEM is used to test all the hypothesis set.

The **Seventh Chapter** details the Findings and Conclusion of the data analyzed. Based on the results obtained it is found that “After training(AT), Job performance(JP) and Women Training(WT) are the mediating factors.

The **Eighth chapter** discusses the contribution of the study to IT industry. From the study concluded it is observed that Training & Development plays a very crucial role in IT Industry. Training and Development provides IT professional the Job satisfaction, improves job performance and increase productivity.
“I hear and I forget. 
I see and I remember. 
I do and I understand.”

— Chinese Proverb